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PERSISTENCE OF IATROGENIC ATRIAL SEPTAL DEFECT AFTER INTERVENTIONAL MITRAL VALVE REPAIR WITH THE MITRACLIP SYSTEM: A NOTE OF CAUTION

Moderated Poster Contributions
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Authors: *Christoph Hammerstingl, Can Öztürk, Robert Schueler, Nikos Werner, Armin Welz, Georg Nickenig, Heart Centre, University of Bonn, Bonn, Germany*

Background: Transcatheter mitral valve repair (TMVR) with the MitraClip system is a therapeutic alternative to surgery in selected high-risk patients. Clip placement requires inter-atrial trans-septal puncture and meticulous manipulation of the steerable sheath. The persistence of iatrogenic atrial septal defect (iASD) after MitraClip procedures and its clinical relevance is unknown.

Methods and Results: 66 patients (76.7% male, mean age 77.1±7.9 years) with symptomatic mitral regurgitation (MR) at prohibitive surgical risk (Euro Score II 10.1±6.1%) underwent MitraClip procedures and completed 6-months follow up (FU). Transesophageal echocardiography (TEE) after FU showed persistent iASD in 50% of cases. Patients with iASD differed not significantly from patients without ASD concerning baseline characteristics, functional NYHA class, severity of MR and acute procedural success rates (p>0.05). When comparing procedural details and hemodynamic measures between groups, MitraClip procedures took longer in patients without iASD (82.4±39.7min, 68.9±45.5min; p=0.05), and echocardiography after FU showed less decrease of systolic pulmonary artery pressures in the iASD-group (-1.6±14.1mmHg, 9.3±17.4mmHg; p=0.02). Clinically, patients with iASD presented more often with functional NYHA classes >2 after FU (57%, 30%; p=0.03), showed higher levels of NT-pro-BNP (6667.3±7363.9, 4835.9±6681.7; p=0.05), and less improvement in 6-minute-walking-distances (20.8±107.4m, 114.6±116.4m; p=0.001). Patients with iASD showed higher death rates during six months (16.6%, 3.3%; p=0.05). Cox regression analysis found only persistence of iASD (p=0.04) associated with 6-months survival.

Conclusion: Persistence rate of iASD after MitraClip procedures is considerably high with 50%. Persistent inter-atrial shunting was associated with worse clinical outcomes and increased mortality. Further studies are warranted to investigate if persistent inter-atrial shunting is the mediator or marker of advanced disease in these patients.